IN THE CLAIMS:

Please cancel claims 1-51.

CLEAN VERSION OF NEW CLAIMS

Please add new claims 52-81 as follows:

52. (New) A BS322 polypeptide, having at least 90% identity over the entire length of a sequence selected from the group consisting of SEQ ID NOS: 25-28.

53. (New) The BS322 polypeptide of claim 52, wherein said polypeptide is produced by recombinant techniques.

54. (New) The BS322 polypeptide of claim 52, wherein said polypeptide is produced by synthetic techniques.

55. (New) A test kit for determining if BS322 antigen or anti-BS322 antibody is present in a test sample, said kit comprising:

a container containing at least one BS322 polypeptide having at least 90% identity over the entire length of a sequence selected from the group consisting of SEQ ID NOS: 24-28.

56. (New) The test kit of claim 55, wherein said BS322 polypeptide is attached to a solid phase.

57. (New) A method for detecting at least one antibody specific for a BS322 antigen in a test sample suspected of containing the antibody, said method comprising:

(a) contacting the test sample with a BS322 polypeptide for a time and under conditions sufficient to allow antigen/antibody complexes to form,

wherein said BS322 polypeptide contains at least one BS322 epitope derived from an amino acid sequence having at least 90% identity over the entire length of a sequence selected from the group consisting of: SEQ ID NOS:24-28; and

(b) detecting the presence of said complexes as an indication of the antibody specific for the BS322 antigen.

58. (New) The method of claim 57, wherein said BS322 polypeptide is attached to a solid phase.

59. (New) The method of claim 57, wherein detection of said complexes is indicative of breast disease.

60. (New) A method for producing antibodies which specifically bind to BS322 antigen, comprising:

administering to an individual an isolated immunogenic polypeptide in an amount sufficient to elicit an immune response,

wherein said immunogenic polypeptide comprises at least one BS322 epitope and has at least 90% identity over the entire length of a sequence selected from the group consisting of: SEQ ID NOS:24-28.

61. (New) A method for producing antibodies which specifically bind to BS322 antigen, comprising:

administering to an individual a plasmid,

wherein said plasmid comprises a sequence which encodes at least one BS322 epitope derived from a polypeptide having an amino acid sequence with least 90% identity over the entire length of a sequence selected from the group consisting of: SEQ ID NOS: 24-28.

62. (New) A purified polynucleotide, selected from the group consisting of: SEQ ID NOS: 25-28 and degenerate codon equivalents thereof.

63. (New) The polynucleotide of claim 62, wherein said polynucleotide is produced by recombinant techniques.

64. (New) The polynucleotide of claim 62, wherein said polynucleotide is produced by synthetic techniques.

65. (New) A test kit for determining if BS322 antigen or anti-BS322 antibody is present in a test sample, said kit comprising:

a container containing at least one purified polynucleotide selected from the group consisting of SEQ ID NOS:24-28 and degenerate codon equivalents thereof.

66. (New) The test kit of claim 65, wherein the purified polynucleotide is attached to a solid phase.

67. (New) A method for detecting at least one antibody specific for a BS322 antigen in a test sample suspected of containing the antibody, said method comprising:

(a) contacting the test sample with a polynucleotide for a time and under conditions sufficient to allow antigen/antibody complexes to form,

wherein the polynucleotide contains at least one epitope derived from a sequence selected from the group consisting of: SEQ ID NOS:24-28 and degenerate codon equivalents thereof; and

(b) detecting the presence of said complexes as an indication of the antibody specific for the BS322 antigen.

68. (New) The method of claim 67, wherein the polynucleotide is attached to a solid phase.

69. (New) The method of claim 67, wherein detection of said complexes is indicative of breast hypertrophic proliferation.

70. (New) A method for producing antibodies which specifically bind to BS322 antigen, comprising:

administering to an individual an isolated immunogenic polypeptide in an amount sufficient to elicit an immune response,

wherein said immunogenic polypeptide comprises at least one BS322 epitope and is selected from the group consisting of: SEQ ID NOS:24-28 and degenerate codon equivalents thereof.

71. (New) A method for producing antibodies which specifically bind to BS322 antigen, comprising:

administering to an individual a plasmid,

wherein said plasmid comprises a sequence which encodes at least one BS322 epitope derived from a polypeptide sequence selected from the group consisting of: SEQ ID NOS:24-28 and degenerate codon equivalents thereof.

C2 Cont

72. (New) An isolated DNA molecule, selected from the group consisting of: SEQ ID NOS: 25-28 and degenerate codon equivalents thereof.

73. (New) The DNA molecule of claim 72, wherein said molecule is produced by recombinant techniques.

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74. (New) The DNA molecule of claim 72, wherein said molecule is produced by synthetic techniques.

75. (New) A test kit for determining if BS322 antigen or anti-BS322 antibody is present in a test sample, said kit comprising:

a container containing at least one isolated DNA molecule selected from the group consisting of SEQ ID NOS:24-28 and degenerate codon equivalents thereof.

76. (New) The test kit of claim 75, wherein the DNA molecule is attached to a solid phase.

77. (New) A method for detecting at least one specific for a BS322 antigen in a test sample suspected of containing the antibody, said method comprising:

(a) contacting the test sample with an isolated DNA molecule for a time and under conditions sufficient to allow antigen/antibody complexes to form,

wherein the DNA molecule encodes at least one epitope derived from a sequence selected from the group consisting of: SEQ ID NOS:24-28 and degenerate codon equivalents thereof; and

(b) detecting the presence of said complexes as an indication of the antibody specific for the BS322 antigen.

C2 Cont

78. (New) The method of claim 77, wherein the DNA molecule is attached to a solid phase.

79. (New) The method of claim 77, wherein detection of said complexes is indicative of breast cancer.

80. (New) A method for producing antibodies which specifically bind to BS322 antigen, comprising:

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administering to an individual an isolated immunogenic polypeptide in an amount sufficient to elicit an immune response,

wherein said immunogenic polypeptide is a DNA molecule selected from the group consisting of: SEQ ID NOS:24-28 and degenerate codon equivalents thereof.

81. (New) A method for producing antibodies which specifically bind to BS322 antigen, comprising:

administering to an individual a plasmid,

wherein said plasmid comprises a DNA molecule that encodes at least one BS322 epitope and is selected from the group consisting of: SEQ ID NOS:24-28 and degenerate codon equivalents thereof.